All Agency Project Request

2013 - 2015 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	Madison	285-0A-9931	Utility - Site Electrical (underground)

Project No. 15L1S **Project Title** Charter Street Substation 4160-Volt Circuit Addition

Project Intent

This project installs a new 4160-volt electric utility service from the Charter Street Substation to the Charter Street Heating Plant (CSHP) for redundancy.

Project Description

Project work includes installing a fused 4160-volt circuit from the Charter Street substation to a new transfer switch to be located within the Charter Street Heating Plant (CSHP) and provide backup for the T4 transformer, located on the roof of the plant, which serves the north side of the plant and boilers #6 and #7. Project work also includes installing a new medium voltage automatic transfer switch and controls, motor control center, and variable frequency drive. This project will also reconnect the reverse osmosis equipment.

Project Justification

A potentially catastrophic, single point of failure has been identified in the electric utility distribution in CSHP. The loss of any component of the 13.8 kilovolt to 4160-volt circuit originating at the Dayton Street substation would result in the complete loss of power to the north side of the plant and it would not have the means of reestablishing an energy source. If the loss of power were due to an equipment failure, the plant would be without power for days or potentially weeks before temporary backup power could be established. The campus recently experienced several electrical outages that affected power at CSHP resulting in the loss of chilled water and steam to the campus.

This backup electric utility feed will support the plant's mission critical equipment and allow the restoration of power within the first hour after the loss of power or an equipment failure. The backup feed will originate from an alternative utility source and not the primary feed. This project will ensure minimal disruption to steam and chilled water service by providing heating and cooling to campus facilities and equipment.

A/E Consultant Requirements

☑ A/E Selection Required?

Consultants should have specific expertise and experience in the design and coordination of electrical utilities and heating and cooling plant systems. Work includes site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of design and bidding documents, and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

Commissioning

- ☑ Level 1
- ☐ Level 2

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Project Budget

Construction Cost:		$
Haz Mats:		$0
Construction Total:		$
Contingency:	15%	$
A/E Design Fees:	8%	$
DFD Mgmt Fees:	4%	$
Other:		$0
		$619,000

Funding Source(s)

	Total
GFSB - Utilities Repair & Renovation [Z080]	$476,600
PRSB - []	$0
Agency/Institution Cash [AGF0]	$142,400
Gifts	$0
Grants	$0
Building Trust Funds [BTF]	$0
Other Funding Source	$0
	$619,000

Project Schedule

SBC Approval:	02/2016
A/E Selection:	03/2016
Bid Opening:	06/2016
Construction Start:	07/2016
Substantial Completion:	07/2017
Project Close Out:	12/2017

Project Contact

Contact Name: Rick Were

Email: <rick.were@wisc.edu>

Telephone: (608) 263-3089 x

Project Scope Consideration Checklist

		y	N
1.	Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction. *All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.*	☑	☐
2.	Is the project an extension of another authorized project? If so, provide the project #...	☐	☑
3.	Are hazardous materials involved? If yes, what materials are involved and how will they be handled? *Hazardous materials abatement is not anticipated on this project.*	☐	☑
4.	Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent? *All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.*	☑	☐
5.	Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent? *All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.*	☑	☐
6.	Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope.	☐	☑
7.	Have you identified the WEPA designation of the project...Type I, Type II, or Type III? *Type III.*	☑	☐

8.	Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here.	☐	☑
9.	Are there any other issues affecting the cost or status of this project?	☐	☑
10.	Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution.	☐	☑
11.	Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent? *Project will reduce loss of steam and chilled water due to power interruptions.*	☑	☐
12.	Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s).	☐	☑
13.	Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <http://www.focusonenergy.com> or the local utility provider)? If yes, describe here.	☐	☑
14.	If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here.	☐	☑